REMARKS

The specification has been amended at page 7 to provide the proper patent number, and claim 34 has been amended to correct its dependency.

Section 112 Rejection

Claim 1 has been rejected under 35 USC § 112, second paragraph for being indefinite. The Examiner stated that he is having difficulty ascertaining the meaning of the term "masked body that lacks a rigid insert."

Applicants direct the Examiner's attention to page 4, lines 10-12 and lines 19-22. At these locations, the term "mask body" and "rigid insert" are respectively defined. A mask body that lacks a rigid insert is a structural member that is configured to fit over a person's nose and mouth and that helps define an interior gas space separate from an exterior gas space but does not have a relatively stiff structural member. The stiff structural member provides adequate structure for attaching fluid communication components such as filter cartridges and exhalation valves and is joined to a more compliant portion that makes contact with, and generally conforms to a wearer's face. U.S. Patent 5,062,421 to Burns et al. illustrate an example of a rigid insert that is used in a mask body in conjunction with a compliant faced contacting member.

Applicants' invention does not have a rigid structural part that is incorporated into the face piece. As such, applicants' mask body lacks a rigid insert. The Examiner's attention is also directed to page 1 of applicants' specification for a further discussion of a rigid insert.

Section 102 Rejection

Claims 1-3, 8, and 32 have been rejected under 35 USC § 102(b) as being anticipated by U.S. Patent 4,960,121 to Nelson et al. (Nelson). Applicants respectfully submit that this rejection cannot be sustained.

Nelson describes a half-mask assembly 10 that includes a hard shell 12 and a rubber elastomeric face seal 14.[1] Nelson's respiratory mask has a mask body that includes a rigid insert (hard shell 12). As noted above, applicants' respiratory mask has a mask body that *lacks* a rigid insert. As such, Nelson does not anticipate applicants' claimed invention.

[1] See Nelson at column 2, lines 24-35.

Section 103 Rejection

Claims 4, 6, and 7, have been rejected under 35 USC § 103 as being unpatentable over Nelson in view of U.S. Patent 6,062,221 to Brostrom et al. (Brostrom). Applicants respectfully submit that this rejection also cannot be sustained.

The present invention provides a new respiratory mask that can overcome the need for thick facepieces, multiple parts, and multiple manufacturing steps to create the mask body. Unlike known respirators that used a thick rubber face piece to enable the cartridges to be adequately supported, the present invention may employ a thinner material that is sufficiently rigid and yet deformable at the cheeks so that the mask can adequately support filter cartridges and yet be sufficiently pliable to enable the mask to fit snugly and comfortably over a person's nose and at the cheek and chin portions. And unlike masks that used a rigid insert and a soft compliant portion, the present invention can make good contact to a wearer's face without using multiple facepiece parts and multiple manufacturing steps.

As indicated above, Nelson does not describe a respirator that lacks a rigid insert in its face piece. Brostrom adds little or nothing to the features that are missing in Nelson. In fact, Brostrom also describes a respirator that has a rigid insert incorporated into its mask body. At column 3, lines 13-18, Brostrom indicates that the mask body 10 includes a seal portion 12 that "is configured to provide a seal against the face of the wearer" (this seal portion 12 is "constructed of a rubber-like material and is generally contoured to serve as a sealing surface) and further states that "[t]he central portion 14 is generally constructed of a rigid material and serves as a support for the seal portion 12." It is therefore apparent that Brostrom describes a respirator that also includes a rigid insert. Brostrom and Nelson therefore both fail to teach or suggest a respirator that lacks a rigid insert. Accordingly, these patents would not have led a person of ordinary skill to the subject matter of the present invention.

The present invention provides a respiratory mask that comprises a mask body that lacks a rigid insert, that is non-elastomeric, and that is adapted for fitting over a person's nose and mouth. The mask body has a nose portion, a chin portion, first and second cheek portions, and an axis that extends from the nose portion to the chin portion. The mask body is constructed to deform such that the first and second cheek portions can move towards each other about the axis

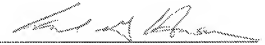
when the mask body is held stationary and a force is exerted on the nose and chin portions. The respiratory mask also includes a harness that assists in supporting the mask on a wearer's face.

Previously known masks achieved a good fit over the nose and around the cheeks and chin by using either thick elastomeric rubber or a rigid insert in conjunction with an elastomeric type face seal. The present invention, in contrast, does not possess a rigid structural insert to enable filter elements and valves to be adequately attached to the mask body but yet is able to provide a good fit at the cheek regions of a wearer's face, as well as over the nose and around the chin. The inventive mask body exhibits substantial deflection about an axis that extends from the nose portion to the cheek portion of the mask. When tension is placed upon the straps that support the mask body on a wearer's face, and an opposing force is exerted at the nose and chin portions ---- as would occur when the mask is being worn ---- the cheek portions deflect inwardly towards each other. This form of deflection enables a good fit to be achieved on the wearer's face. This fit can be maintained during jaw movement of the wearer. For example, if a mask user is speaking while wearing the mask, adequate contact between the mask and the cheek portions can still be achieved. When using the inventive mask, an extension of the jaw draws the cheek portions toward each other so that a tight fit is still maintained.

This structure and other features and advantages of the invention are not taught or suggested by the prior art. As such, applicants' invention is new and nonobvious, and the inventors should be awarded a patent for their new teachings.

Respectfully submitted,

February 15, 2007
Date

By: 
Karl G. Hanson, Reg. No.: 32,900
Telephone No.: 651-736-7776

Office of Intellectual Property Counsel
3M Innovative Properties Company
Facsimile No.: 651-736-3833